IN THE CLAIMS:

Please amend the claims as follows:

1-10. (Canceled)

11. (Currently Amended) A method of producing fibroblasts ~~for culturing embryoid bodies from embryonic stem cells~~, comprising:

obtaining embryonic stem cells;

culturing the embryonic stem cells to induce formation of embryoid bodies;

isolating the embryoid bodies;

casting the embryoid bodies in a three-dimensional scaffolding material and a cell culture medium, wherein the three-dimensional scaffolding material is a gel; and

growing the embryoid bodies embedded in the three-dimensional scaffolding material and in the cell culture medium,~~; and~~ thereby inducing differentiation of the embryoid bodies to produce substantially homogenous populations of fibroblasts ~~after the growing step~~.

12. (Currently Amended) The method of claim 11, wherein the inducing ~~step~~ comprises adding a cytokine to the three-dimensional embryoid body culture.

13. (Original) The method of claim 12, wherein the cytokine is vascular endothelial growth factor (VEGF); vascular permeability factor (VPF); members of the fibroblast growth factor family (FGF); members of the interleukin family (IL-1α, and -1β, -2, -3, -4, -5, -6, -7, -8, -9,-10,-11,-12,-13,-14,-15,-16,-17 or -18); epidermal growth factor (EGF); platelet-derived growth factor (PDGF); platelet-derived endothelial cell growth factor (PD-ECGF); transforming growth factors alpha and beta (TGF-α, TGF-β); tumor necrosis factor alpha (TNF α); hepatocyte growth factor (HGF); granulocyte-macrophage colony stimulating factor (GMCSF); insulin growth factor-1 (IGF-1); angiogenin; angiotropin; fibrin, nicotinamide; macrophage inflammatory protein (MIP); macrophage migration inhibiting factor (MIF); granulocyte stimulating factor (GCSF); macrophage stimulating factor (MCSF); endothelial cell growth factor (ECGF); members

of the interferon family (IFNs); members of the insulin-like growth factor family (IGF-I and IGF-II); nerve growth factor (NGF); members of the neurotrophin family (NTs); members of the selectin family; intercellular adhesion molecule (ICAM); platelet vascular cell adhesion molecule (PECAM); vascular cell adhesion moleculre (VCAM); calcitonin, mediators, hormones or hirudin.

14. (Original) The method of claim 13, wherein the cytokine is transforming growth factor beta (TGF-β); fibroblast growth factor (FGF); or interleukin 4 (IL-4).

15. (Currently Amended) The method of claim 12, wherein the inducing ~~step~~ further comprises adding a cell culture medium comprising about 2% ~~ES-qualified~~ fetal bovine serum.

16. (Currently Amended) The method of claim 11, further comprising: ~~the steps of;~~

~~-isolating~~ extracting the fibroblasts ~~differentiated cells~~ from the three-dimensional scaffolding material; and

[[-]]culturing the fibroblasts ~~differentiated cells~~ in monolayer culture~~; after the inducing step~~.

17. (Currently Amended) The method of claim 16, wherein the ~~isolating step~~ extracting is performed by digesting the three-dimensional scaffolding material and by centrifugation.

18. (Currently Amended) The method of claim 16, wherein the monolayer culture includes ~~a culture medium of knock-out DMEM and~~ about 10% ~~ES-qualified~~ fetal bovine serum.

19. (Currently Amended) The method of claim 12, wherein the inducing ~~step~~ includes adding FGF, TGF-b1 or IL-4 to the medium.